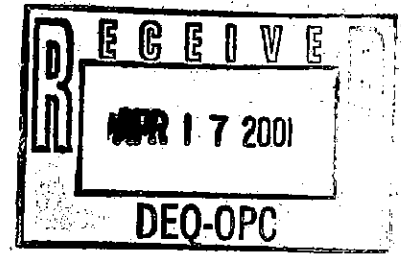


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SITE REMEDIATION REPORT

**Dabney/Smith Property
215 North Jackson Street
Crystal Springs, Mississippi**

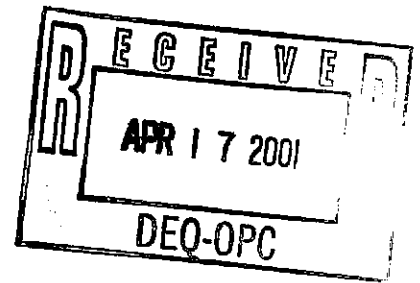
Prepared for

BorgWarner Inc.

April 2001

SITE REMEDIATION REPORT

**Dabney/Smith Property
215 North Jackson Street
Crystal Springs, Mississippi**



Prepared for

BorgWarner Inc.

Prepared by

**MARTIN&SLAGLE GeoEnvironmental Associates, LLC
PO Box 1023
Black Mountain, North Carolina**

April 2001

A handwritten signature in black ink, appearing to read "Robert L. Martin". The signature is written over a horizontal line.

**Robert L. Martin, P.G.
Project Manager**

A handwritten signature in black ink, appearing to read "Christine E. Slagle". The signature is written over a horizontal line.

**Christine E. Slagle
Senior Scientist**

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215 North Jackson Street
Crystal Springs, Mississippi**

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SECTION 1.0 EXECUTIVE SUMMARY

The soil on the Dabney/Smith property, located at 215 North Jackson Street, Crystal Springs, Mississippi, and consisting of approximately 1.2 acres, was found to contain concentrations of polychlorinated biphenyls (PCBs) during sampling events conducted in August and September 2000. The concentrations, in some areas of the property, exceeded the standard of 1.0 mg/kg established by Mississippi Department of Environmental Quality for PCBs in soils on residential properties.

The soil containing concentrations of PCBs in excess of 1.0 mg/kg was remediated by removal and replaced with clean soil. Impacted soil was excavated to the property line common with the Kuhlman Electric Corporation's (KEC) plant property and disposed of in the BFI "Little Dixie" Subtitle D landfill in accordance with all applicable state and federal regulations. Confirmatory soil samples were collected following excavation to confirm that impacted soil had been removed. A total of 64 floor samples and 71 sidewall samples were collected following removal of soil. All soil samples were collected and managed in accordance with US EPA Region IV Environmental Investigation Standard Operating Procedures and Quality Assurance Manual (EISOPQAM) protocols.

Two areas of the site were excavated to an average depth of 2 feet bgs. Excavation continued until on-site laboratory analytical results confirmed that all soil containing concentrations of PCBs exceeding the residential cleanup thresholds was removed. The analytical results indicate that all soil containing 1.0 mg/kg or greater were removed from the Dabney/Smith property. After confirmation results indicated that the remediation objective had been met, the excavation was backfilled with analytically confirmed clean soil. The surface of the remediation area was covered with fresh sod and all structures that were removed during excavation were replaced.

On October 26, 2000 the Dabney/Smith property was effectively remediated by removal of soil containing PCB concentrations in excess of 1.0 mg/kg in accordance with the

residential property cleanup thresholds. No further action is warranted at the Dabney/Smith property.

SECTION 2 INTRODUCTION

The soil on the Dabney/Smith property was found to contain concentrations of polychlorinated biphenyls (PCBs) during sampling events conducted in August and September 2000. The concentrations, in some areas of the property, exceeded the standard of 1.0 milligrams per kilograms (mg/kg) established by Mississippi Department of Environmental Quality for PCBs in soils on residential properties. The soil containing concentrations of PCBs in excess of 1.0 mg/kg was remediated by removal and replaced with clean soil. This report describes the remediation process, results of soil analysis analytical results. The report also includes maps showing sample locations and the areas of remediation.

The Dabney/Smith property is located at 215 North Jackson Street, Crystal Springs, Mississippi. This property is located southeast and adjacent to the Kuhlman property. The site includes a single-family dwelling, two storage buildings, and one vehicle shed situated on approximately 1.2 acres.

2.1 Background

The Kuhlman Electric Corporation (KEC) facility was constructed and has been operated as a transformer manufacturing plant since the 1950s by KEC or its predecessor, a corporate entity also named KEC. KEC continued to own and operate the plant in March 1999 when BorgWarner Inc. purchased Kuhlman Corporation, the parent of KEC, and thereafter as well. Neither BorgWarner nor Kuhlman Corporation has ever owned or operated the plant. Seven months after the purchase, on October 1, 1999, BorgWarner and Kuhlman Corporation sold KEC's stock to the Carlyle Group. BorgWarner and Kuhlman Corporation agreed to indemnify KEC and the Carlyle Group for historic contamination at the site and may, under the purchase agreement, control any remediation of such contamination.

During routine construction activities at KEC's plant in Crystal Springs, Mississippi, construction personnel encountered soil that had been impacted by unknown chemicals. KEC reported that construction activities were immediately halted, and two soil samples were collected by representatives of KEC and sent to an independent laboratory for analysis. KEC reported the detection of the PCB, Aroclor 1268, in the stained soils, along with various chlorinated benzenes.

On April 19, 2000, BorgWarner received notification from KEC in accordance with the purchase agreement that areas of contaminated soil had been found in Crystal Springs, Mississippi. BorgWarner responded by sending a representative to meet with KEC plant representatives and a representative from Mississippi Department of Environmental Quality (MDEQ), Eric Dear, on April 25, 2000. During this meeting all parties were briefed on the existing situation at the plant and MDEQ's expectations regarding assessment of the site.

In May 2000, a preliminary assessment of the KEC property was conducted. The goal of this preliminary assessment was to:

- Determine the character and concentration of the contaminants in various environmental media on-site,
- Determine if contaminants might have migrated from the site, and,
- Identify and conduct any immediate response actions necessary to alleviate public exposure to the contaminants.

The results of the preliminary assessment indicated a likelihood that PCBs had migrated off site and on to adjacent residential properties. An assessment of the adjacent properties was initiated and remedial activities were subsequently completed on three properties with confirmed concentrations of PCBs exceeding the residential cleanup thresholds.

2.2 Site Description

The Dabney/Smith property consists of 1.2 acres located southeast of the KEC property. The Dabney/Smith property abuts the southeast side of the KEC property (Figure 1). Storm water runoff from the KEC property flows onto the northwest portion of the Dabney/Smith property.

The Dabney/Smith property is generally flat, sloping gently to the south toward Lee Avenue. PCB concentrations exceeding the residential cleanup thresholds were found in three separate areas in the northern and eastern portions of the property and the western edge.

2.3 Investigative Activities

Soil samples were collected on a 20-foot grid during the initial assessment activities. Samples were collected using a direct-push soil sampler. A detailed description of sampling techniques used during this investigation is included in the *Preliminary Site Characterization Report* (Ogden 2000). Samples were analyzed by the on site laboratory for PCBs using a modified EPA Method 8080. Ten percent of the samples were split for confirmation analysis by the fixed-base laboratory, Paradigm Analytical Labs (Paradigm) located in Wilmington, North Carolina. All sampling as performed in accordance with EPA Region IV Environmental Investigation Standard Operating Procedures and Quality Assurance Manual (EISQAM).

Remedial activities were initiated in those areas confirmed to contain PCBs in concentrations exceeding the residential cleanup thresholds. Soil was excavated and disposed of at BFI's "Little Dixie" solid waste landfill in Madison County, a Subtitle D landfill, in accordance with all applicable State and federal regulations. Soil samples were collected on an average 10-foot grid following excavation to confirm that all impacted soil had been removed. Excavation continued until on site laboratory analytical

results confirmed that all soil containing concentrations of PCBs exceeding the residential cleanup thresholds was removed.

The following report provides details of the sampling, analytical, and remedial activities performed at the Dabney/Smith property.

SECTION 3.0 SAMPLING PROGRAM – LOCATION AND RATIONALE

Remediation of the Dabney/Smith property, on 215 North Jackson Street, began on October 26, 2000. Remediation of this property involved excavation and disposal of all soil containing 1.0 mg/kg or greater of PCBs in accordance with MDEQ's established clean-up criteria for residential properties. All soils containing greater than 1.0 mg/kg of PCBs were profiled and disposed of at the BFI's "Little Dixie" Subtitle D Landfill in Madison County, Mississippi after MDEQ and US EPA approvals were obtained.

Following excavation, all excavated areas were sampled to confirm that impacted soil had been removed. In correspondence regarding disposal requirements, Craig Brown, of US EPA Region IV, stated that the excavated soils did not meet the definition of "PCB remediation waste." Under this definition, the remediation activities fell under the management criteria and guidelines set by MDEQ. Remediation was based on criteria established in the *State of Michigan Department of Environmental Quality, Waste Management Division, Guidance Document, Verification of Soil Remediation, April 1994, Revision 1*, as adopted by Mississippi DEQ for use on projects of this nature.

The guidance document provides a procedure for establishing a soil-sampling grid for confirmation that cleanup goals have been met or exceeded. The procedure that applies to sites with a surface area less than 10,890 square feet only requires a minimum of 8 samples to be collected from this site. This procedure is a biased sampling methodology and does not necessarily apply to this site since random occurrences of PCBs were expected. The grid spacing determination for medium sized sites presented in the guidance document called for a spacing of 15 feet based on a minimum remediation area of 10,890 square feet. The grid spacing is determined by the following equation:

$$(A/\pi)^{1/2} / 4 = GI$$

where: A = gridded area (ft²)

GI = grid interval

$\pi = 3.14159$

A conservative average spacing of 10 ft was used to confirm that impacted soils had been removed from the site. The 10 ft grid spacing applied to the excavation floor samples as well as the excavation sidewall samples.

All samples were collected in accordance with EPA Region IV EISOPQAM. A total of 71 sidewall samples and 64 excavation floor samples were collected for confirmation of remediation. Sample locations are shown in Figure 2. A total of 15 duplicate samples were collected for laboratory quality control. The analytical results indicate that all soil containing 1.0 mg/kg or greater were removed from the Dabney/Smith property. Analytical results are included in Appendix 1.

The sample locations shown on Figure 2 are only those with analytical results less than 1.0 mg/kg and which confirm the removal of PCB contaminated soil. Table 1 contains analytical results that confirm remediation, and Appendix 1 contains data sheets of all samples collected during the remediation process.

SECTION 4.0 ANALYTICAL PROGRAM

All soil samples were collected and managed in accordance with USEPA Region IV EISOPQAM protocols. Samples were collected using clean sampling equipment. Equipment rinseate samples were collected and analyzed to confirm the effectiveness of the decontamination procedures.

Each sample was assigned a unique sample identification designation in accordance with the labeling requirements under section 3.2.1 of the EISOPQAM. Field records were kept in accordance with procedures specified in section 3.5 of EISOPQAM. The sample identification designation, date, and time of collection was recorded in the field book and on the chain of custody for cross-referencing.

Upon collection, samples were placed in 4 oz amber glass jars, and the jars were transferred to a small sample cooler. Field personnel delivered samples to the mobile lab several times each day. Upon arrival at the mobile lab, the samples were transferred to the ECCS sample custodian who logged each sample on ECCS chains of custody. Each sample was assigned a unique ECCS internal ID for tracking purposes. After analysis, the samples were transferred to either a sample refrigerator in the mobile lab or stored in coolers until they were either sent to Paradigm for confirmation analysis or disposed of on-site. Chains of custody were completed for all samples packaged and shipped to Paradigm for confirmation analysis.

Analytical Procedures

For analysis of samples in the field lab, ECCS used EPA 8082m, modified for the mini extraction.

Paradigm Analytical also used EPA 8082 for quantitation of PCBs.

SECTION 5.0 REMEDIATION AND DISPOSAL

Remediation of the Dabney/Smith property, at 215 North Jackson Street, began on October 26, 2000. Remediation of this property involved excavation to the property line common with the Kuhlman Electric Corporation's (KEC) plant property and disposal of all soil containing 1.0 mg/kg or greater of PCBs in accordance with MDEQ's established clean-up criteria for residential properties. All soils containing greater than 1.0 mg/kg of PCBs were profiled and disposed of at the BFI's "Little Dixie" Subtitle D Landfill in Madison County, Mississippi after MDEQ and US EPA approvals were obtained.

Two separate areas totaling approximately 6,211 ft² were excavated to an average depth of 2 feet bgs. Excavation was accomplished using a track-mounted backhoe and "Bobcat" front-end loader. Excavated soil was placed directly into a plastic lined roll-off box and transported to the landfill when full. Soil was removed from live oak tree roots using an "Air Shovel"[™] which is a unique technology adopted specifically for this purpose. The Air Shovel[™] uses a pressure spray to dislodge soil from around the roots while a vacuum system removes the soil and water by vacuuming into a tank for disposal.

Contaminated soil was removed from the west side of the property to the edge of the property. Soil samples that were collected along the property line that abuts the KEC property had elevated levels of PCB with concentrations above the remediation goal. Excavation was terminated at the property line. The remaining contaminated soil on the property line will be remediated when the KEC property is remediated.

A total of 515.2 tons of soil were removed from the site in 35 20-yd³ roll-off boxes. Waste manifests are included in Appendix 2.

SECTION 6.0 SUMMARY AND CONCLUSIONS

The Dabney/Smith property was effectively remediated of soil containing PCB concentrations of 1 mg/kg or more in accordance with the residential property cleanup thresholds. Confirmation sampling in the impacted area was performed in accordance with applicable state requirements to demonstrate that the remediation goals were met.

No further action is warranted at the Dabney/Smith property.

FIGURE 1	SCALE 1" = 60'	DATE: 4/12/01		DR: RRB	MAPTECH, INC.	PREPARED FOR: BorgWarner Inc.	CARDINAL SURVEYING MARTINSSLAGLE PO Box 1023 Black Mountain NC 28711 828.669.3929 828.669.5289
		PROJECT NO.: 8W00-1		CHK: RLM			
SITE REMEDIATION PROPERTY LINE MAP							

